

INDEX OF SURGICAL PROGRESS.

GENERAL SURGERY.

I. Experimental Researches on the Etiology of Suppurative Phlegmons in Man. By DR. JOSEPH PASSET (Munich). During the year 1884 the author examined in the bacteriological laboratory of Munich thirty-three cases of acute abscess occurring in man by cultivating the micro-organisms found in them, and testing their action by inoculating them upon animals. He published the results of these experiments in a condensed form in the *Fortschritte der Medicin* early in this year (1885) and has now edited full particulars in pamphlet form. As a soil for cultivation he used an 8 per cent slightly alkaline peptonized gelatine prepared with infusion of meat, and a soil consisting of 1,000 parts of water, 20 of peptone, 10 each of common salt, extract of meat and agar-agar with sufficient carbonate of soda to counteract the acidity; and, in addition to these, also coagulated ox-blood-serum and sterilized potato slices. In all details Koch's methods were followed.

The author does not lay claim to having added anything new to the knowledge of the etiology of certain kinds of subcutaneous suppurative inflammation; Ogston had found (1880) micro-organisms in pus, classified them and regarded them as the cause exciting inflammation; and Klebs, Lister, Kocher, Koch, Pasteur and others (Becker, Garré) had confirmed this opinion.

Rosenbach, who published his researches on the same subject only a few months before the author had concluded his experiments, treated the subject in a very similar manner—and the results of the present author must be regarded as in the main corroborating the statements of Rosenbach. They both found the staphylococci (Ogston) and streptococci (Billroth) most frequently represented, but while Rosenbach only found two kinds of the former (*staphylococcus pyogenes aur-*

cus and *st. p. albus*) the author found a third kind in addition to these, the *st. p. citreus*. The streptococcus found by himself the author does not believe to be identical with the one found by Rosenbach. The author furthermore found a new micrococcus which somewhat resembles Friedländer's pneumonia-coccus, and, besides this, organisms which he calls *bacillus pyogenes fetidus* and *staph. cereus albus* and *staph. cereus flavus* respectively; but he did not find Rosenbach's *micrococcus pyogenes tenuis*.

The conclusions which the author draws from his researches are, that since the most usual cause of acute suppuration is the presence of micro-organisms in the tissues, as Ogston first asserted, the most frequent forms present in such suppurations are the different kinds of staphylococcus pyogenes, but that other forms may occur as well, especially the streptococci. The most different forms of suppuration, from a simple furunculus to an acute osteomyelitis, from the slightest subcutaneous accumulation of pus to pyæmia causing death, may each be due to one or other of these two forms. The author, indeed, believes that the only reason why these agents should cause different affections is that they are, in each case, differently localized, or introduced into different kinds of tissue.

He found staphylococci repeatedly in putrefying meat, rinsings of dishes, etc., and believes that handling these articles may easily lead to the introduction of the germs beneath the skin, calling forth whitlows, felons, etc.

The special action of the bacteria in calling forth suppuration, the author believes to be a chemical one and corresponding to the suppuration after introduction of irritants, such as turpentine and croton oil (Orthmann, Councilman), under the skin. The chemical irritant may either be an excretion of the micro-organisms or result from a decomposition of the tissues by their action.

The treatment of phlegmonous inflammatory processes with ice is justifiable, in the author's opinion, in order to gain time for the organism to strengthen itself to battle against the infection, for cold prevents their development during the time of its application. Boiling water, however, would be more efficacious. But if suppuration is inevitable moist warmth and early incision is advisable. Hypodermoi-

injections of a one-in-thousand sublimate solution and similar injections into inflamed joints are proposed by the author, and one case cited, where acute gonitis (*staph. pyog. albus*), after acute articular rheumatism was cured by aspiration and injection of thirty cubic centimetres of $\frac{1}{10}$ per cent solution of corrosive sublimate.

By far the greater part of the treatise deals with the description of the micro-organisms found and the inoculation experiments.

The *staphylococcus pyogenes* is found singly, or in pairs, between the pus-cells, or imbedded in their protoplasm; and in larger groups in sections of pathological specimens and in cultures. The cocci are not all of the same dimension, their average measurement is 0.87 micromillimetres (μ). The cultures begin to develop in one or two days, are whitish gray in color, and the gelatine is liquefied. The culture begins to grow from the inoculation puncture; on the third day a growth the shape of a lentil appears on the surface; in eight days the whole of the zone surrounding the puncture is liquefied; after three or four weeks the whole is turned into an opaque fluid, which subsequently becomes clarified and emits a sour odor like spoilt starch paste. The sediment is slightly colored at first, more markedly later on, and is white, orange or lemon in the different cultures of *staph. pyog. albus*, *aureus* and *citreus* respectively. Agar-agar-soils are not liquefied. Plate-cultures develop in eighteen hours at the normal temperature of the body. The characteristic colors begin to appear after twenty-four hours. The same observation can be made with blood-serum and potato-soils. If the air is shut off the cultures do not color.

Injection of either of these cultures into the pleura or abdomen of rabbits, Guinea pigs and mice causes death in one or two days; the original cultures can again be obtained from the blood and tissues of the animals. Very similar results follow injections into the jugular veins. The kidneys appear mainly affected, hyperæmia and embolic processes being observed. Inoculations under the skin produce abscesses after two days; injections into joints, purulent inflammation.

The *streptococcus* is found in chains of three, ten or thirty cocci; frequently these chains appear formed of diplococci, or pairs. The size of the single cocci varies; on an average they measure from 0.58 to 0.73 μ . and resemble Fehleisen's erysipelas-cocci. After inocula-

tion the gelatine soil presents, on the second or third day, a delicate light gray halo, two millimetres in size, around the puncture, on the surface of the gelatine. In the gray opacity very minute white dots and points appear, which subsequently grow larger. These points are more prominent if the matter inoculated be very much diluted. On plate-cultures the microbe grows in like manner in spots, dusted with finest points. On blood-serum a line of inoculation develops to a broad band. On potato sections no growth ensued visible to the naked eye. In agar-agar no halo appeared as on the gelatine, the puncture developing simply to a ribbon-like streak, with fine dots visible at the edges. Plate-cultures on agar-agar developed at 37° C. after twenty-four hours as a gray film, consisting of finely granulated irregular spots, which prove to be conglomerations of chains. Later on the lines of inoculation appeared framed in by gray bands, in which again small white specks appeared.

Experiments of injecting cultures of the staphylococcus into animals failed to prove them deleterious; but inoculation by means of a needle, on the ear, produced erysipelatous local symptoms. Fehleisen's erysipelas-cocci, in fact, developed in cultures in an exactly similar manner.

The micrococcus resembling Friedländer's pneumonia-coccus, and called, for short, *pseudo-pneumo-coccus*, at first developed in the media in the same manner as the real pn.-coccus. After twenty-four hours a grayish bright hemisphere appears on the surface of the gelatine and grows in size during the following days. But the course of the puncture shows no development. After three or four weeks the upper part of the gelatine assumes a brown color, the gelatine becomes glutinous and viscid and acquires a foetid odor. The microscope reveals many round cocci and a few oblong ones, some constricted in the middle. Their size varies from 0.87 to 1.16 μ . Plate-cultures present white dots after twenty-four hours, which subsequently develop to light gray prominences, which prove to be colonies, consisting mostly of round cocci with a few longer ones. Blood-serum develops a thin colorless streak, which later on assumes a gray color. On potato slices the pseudo-pneumo-coccus presents a thick white succulent growth without any appearance of bubbles. These cocci also possess capsules

which may be stained, but not always, and not so markedly as in the true variety. Injection of these cocci into the pleuræ produced pleuritis with inflammatory lung symptoms in mice, rats, Guinea pigs, as well as rabbits. Injections into the abdominal cavity caused death by septicæmia, as did also intravenous injections. Inoculations under the skin sometimes produced abscesses in rabbits, rats and Guinea pigs, and acute septicæmia in mice. Inhalations with exsiccated culture matter did not produce pleuro-pneumonia. The pseudo-pneumococcus therefore resembles the true pneumo-coccus in some, but not in all, particulars.

The *bacillus pyogenes fœtidus* is about 1.45μ in length and 0.58μ in breadth, rounded at the ends, sometimes joined to one or more others. In its substance one or two colorless spots may be seen (spores). Their motion, when suspended in liquid, is slow. Colonies present, after twenty-four hours, delicate gray nebulosities with a marginal thickening on the surface of the gelatine, which subsequently spread over the whole surface. The puncture also shows a fine cloud in which small specks and dots half the size of a pin's head appear, especially at the lowest portion. Later on the upper portion of the gelatine is turned into a grayish turbid layer. Gelatine plate-cultures show white spots after twenty-four hours, whitish-gray on their surface, which rapidly grow in circumference and confluate, being thicker in the centre and grayer in the periphery. The same manner of growing is observed on agar-agar. Lines of inoculation on coagulated blood-serum expand to broad and thick grayish-white bands. On cut potato-surfaces glossy, luxuriant, light brown colonies are formed. A fœtid, offensive odor always characterizes the growth; milk, however, does not acquire this odor from the bacillus.

Inoculations on animals were accompanied by different results. Rabbits were not affected by injections under the skin, in the pleuræ, the mucous membrane of the trachea, or the jugular vein, excepting one case of abscess. One mouse died from septicæmia after one day and a half after subcutaneous inoculation with five cubic centimetres; others remained healthy. One Guinea pig died after the same treatment in half a day; another developed an abscess. All the affections were traceable to the presence of the bacilli.

The *staphylococcus cereus albus* forms colonies in gelatine of a white color, resembling drops of stearine or wax. Punctures develop to a grayish white streak finely dusted with points. Gelatine-plates show white dots on the first days, which increase to about two millimetres in diameter. Ox-blood-serum develops light gray, dull, luminous bands. Potato-cultures are grayish white, of moderate thickness.

The *staphylococcus cereus flavus* resembles the preceding one in growth, but the color soon turns to a lemon tint, somewhat darker in tone than the color of the staph. pyogen. citreus. Both these staph. cerei are not to be differentiated by the microscope. They appear in groups, or singly, each coccus being about 1.16μ in diameter, or in twos, or even in chains. Inoculations had no marked results.

Physiologically considered, all these species have an extended existence. The streptococci live about three months; the others, however, are easily inoculated after a lapse of six months, the staphylococci even after twelve months. Dried up specimens were inoculable after ten days. Cold ($+4^{\circ}$ C.) prevents their growth, but does not destroy them. Temperature of boiling water destroys them.

Experiments with disinfection were also carried out, and the author found that twenty drops of a one in twenty solution of carbolic acid, 100 drops of a one in 300 salicylic acid solution and five drops of a one in 1,000 sublimate solution added to ten cubic centimetres of gelatine soil prevented the growth of the streptococci; the addition of twenty-five drops, 100 drops and six drops respectively of the above-mentioned solutions exercised an inhibitory influence upon the germs.

The gelatine was only liquified by the staphylococci—most likely, in the opinion of the author, by means of the formation of peptone. *Untersuch. über die Ätiologie der eitrigen Phlegmone des Menschen.* Fischer's Verlag, 1885.

HEAD AND NECK.

I. On Hemiglossitis. By DR. PAUL GUETERBOCK (Berlin).

The title applies to an acute inflammation of the tongue affecting only one lateral half of the organ, and probably of neuropathic origin.

It is of rare occurrence, only eighteen or twenty cases having been accurately described hitherto, although the affection was already recog-

nized in the seventeenth century, and has been repeatedly separated from other inflammatory conditions of the tongue, whether confined to only one-half of the organ or not. The author distinguishes between superficial, parenchymatous glossitis and hemiglossitis, and also between herpes linguæ unilateralis or *hemiglossitis herpetica* and hemiglossitis proper, but believes that the two latter affections resemble each other so closely that they are frequently not to be differentiated.

He publishes two cases of herpetic hemiglossitis, and then proceeds to discuss the nature of hemiglossitis in general, abstracting from clinical facts.

He concludes (1) that the extent of the affection is in many cases restricted to the domain of the fifth nerve in the half of the tongue affected; (2) that in some cases the chorda tympani as well as the lingual branch of the fifth nerve probably participate in causing the disorder; (3) that in no case is the glosso-pharyngeal nerve alone concerned, since the fifth nerve always takes part in the affection; (4) that there are no clinical facts extant which prove an influence of the hypoglossus upon the disturbance; (5) and that the same may be said of the vaso-motor nerves, although, of course, their action cannot be positively disproved; (6) that the disorder probably is analogous to herpes zoster, and consists in some injury done to the nerves in their course, which occasions loss of function, destruction of the tissues, and consequently favors the invasion of infectious matter, and inflammation in all its stages, from the formation of vesicles to suppuration and total gangrene of one-half of the tongue. Direct causes of the affection consist in irritation, arising from caries of the teeth, from false teeth and from abuse of strong spirituous liquors; epidemic influences and action of cold would probably not be confined to one-half of the tongue alone. Herpes zoster of the face in the domain of the fifth nerve, or facial neuralgic disorders, possibly herpes of the tonsils and pharynx, occipital neuralgia and paralysis of the seventh nerve are mentioned as indirect causes of hemiglossitis, although neuralgia sometimes follows the swelling instead of preceding it. The disease attacks male adults almost unexceptionally; but the author believes the idea that the left side is generally affected to be erroneous.

The clinical course of the disease cannot be satisfactorily portrayed.

The swelling of the one-half of the tongue may be slight or so great that the whole organ protrudes through the mouth, rendering nutrition and respiration difficult. The tumor appears greater on the under surface of the tongue, and the mucous membrane is highly œdematous. Abscesses are rare, and gangrene yet rarer, but ulcerations frequently occur. The submaxillary glands and the floor of the mouth are sometimes, but not always, swollen. Impairment of tactile sensibility and of the sense of taste, as well as hyperæsthesia, occur. Neuralgic disorders are more frequent. Once epistaxis was observed.

The prognosis is favorable. No case of death is recorded. The affection generally lasts a few days, at most ten or fourteen days, and passes over as quickly as it came. The treatment does not differ from that in allied affections.—*Deutsch. Zeitschr. für Chirurg* Bd. Hft. 3 and 4. 30 July, 1885.

II. On the Surgical Treatment of Synanche Contagiosa (Epidemic Diphtheria) With Special Reference to the After-Treatment of Incision of the Trachea with Salicylic Acid. By Dr. PAUL BLUMBERG (Baku). The author believes that the varying results and the differences in estimating the indications in cases requiring tracheotomy to be due to the confounding of the three diseases, *synanche contagiosa*, croup and *angina diphtheritica*. He therefore tabulates the points in which these diseases differ from each other. He believes croup to allow of a favorable prognosis concerning tracheotomy; diphtheritic angina does not call for operative treatment, except in cases complicated with œdema of the glottis. In diphtheria he believes the operation of little value, especially if suffocatorial paroxysms have appeared; and fears to bring it into disrepute. But he is in favor of early tracheotomy, in children under 7 years of age, as soon as hoarseness, expulsion of croupous membranes and difficulty of breathing have set in.

He gives a case which ended in death twelve days after the operation; death ensued from kidney disease. He used a spray of salicylic acid, and believes that this was of service in clearing up the lung-mischief. He had previously lost seven cases. One case in which he, as consulting surgeon, advised tracheotomy, recovered—*Deutsch. Zeitschr. für Chirurg*. Bd. 22. Hft. 5 and 6. October 6, 1885.

W. W. VAN ARSDALE (New York).

III. Intubation of the Larynx. By F. E. WAXHAM, M.D., (Chicago, Ill.). Gives the history of four cases in which intubation of the larynx was practiced for the relief of the dyspnœa of croup. The method used was that of O'Dwyer, with tubes constructed for the purpose. The child is held firmly in a sitting posture on the lap of the nurse with the hands at the side, while an assistant holds the head firmly somewhat backward. The gag is introduced between the teeth well back in the left side of the mouth, the assistant holding it with one hand. Guided by the index finger of the left hand, the tube is introduced with an instrument devised for the purpose, which is then withdrawn; if the tube is in place a silk loop which had been attached for the purpose of withdrawing it if it had penetrated into the œsophagus, is withdrawn. Of Waxham's cases but one recovered, the others dying respectively after thirty, thirty-six, twenty-six hours and six days after intubation.—*Chicago Med. Jour. and Examiner.* 1885. Nov, J. E. PILCHER, (U. S. Army).

IV. On the Sequelæ of Tracheotomy in Laryngeal Diphtheria of Childhood. By M. NNEUKOMM (Zurich). Of 203 cases of tracheotomy for diphtheria from 1881 to 1885 in the Zurich surgical clinic eighty-one were dismissed cured. N. hunted up and examined seventy-six of these—sixty-five laryngoscopically—from one to three years after the operation. Entirely normal conditions were found in fifty-eight, although most of these had for some time hoarseness, cough and respiratory troubles, and some also diphtheritic paralysis, especially of the velum. Goitre had occasioned the troubles in many of the other cases; in eight, however, the operation was certainly the cause. In some few cases the cicatrix had moved towards the thyroid cartilage resp., in the inferior operation towards the sternum. In four one end of the cricoid cartilage stood out over the other; in one the trachea was slightly twisted by cicatricial retraction. In seven cases a previously existing hypertrophy of the thyroid gland had almost disappeared, although it is of course doubtful if this resulted from the operation. Examination of the thoracic organs showed little worth mentioning—sometimes slight pulmonary emphysema. In eight cases there was some vocal disturbance—long continued hoarse-

ness, or cough, caused by tracheobronchial catarrh, or loss of power in the otherwise clear voice; a few showed insufficiency of the vocal cords, and three became short of breath on over-exertion. Of the five not seen two had died—one from laryngeal stenosis and the other possibly from a granulation stenosis, since it had suffered from nocturnal respiratory troubles with stridor, and died suddenly at the table. Kramer, of Göttingen, in reviewing this article, corroborates the rarity of respiratory, phonic, or other troubles following tracheotomy in childhood.—Abstract in *Centbl. f. Chirg.*, 1885, No. 38.

V. Hare-Lips in the Heidelberg Clinic, 1877-1883, with Special Reference to Mortality Statistics, and a Contribution to Odontology. By Dr. F. GOTTHELF. Although the methods of operating this trouble have been well perfected and give fine results, yet there are many questions connected with the subject not yet decided—the morphological significance of the intermaxillary bone, mortality from the operation, influence of age on the same, etc.

CHAPTER I.—General Statistics. This includes cleft palate, since both forms have the same embryological origin. There were fifty-six cases in the time stated, ten of which were cleft palate. The males (35) outnumbered the females (21), and were also severer cases, thus bearing out what was first noticed by Bryant and corroborated by Fritzsche. As usual, those on the left side outnumbered those on the right. Their etiology is as yet obscure. Heredity plays but a minor part (three out of fifty-six cases, once in a brother, twice in a maternal uncle). He adds a recent case, where the mother had been operated for hare lip, making four in fifty-seven, or 7%. In two other cases there was asymmetry of the nose, and in one abnormal position of the teeth in the parents. Four cases were said to have been "marked" by the mother ("Versehen"). G. has collected 176 cases, with eighteen, or 10%, where heredity was a factor.

In one of G.'s cases there was a labial fissure reaching to the nostril on the left, while on the right the lip was just indentated, with a fine linear scar running to the nostril—of intrauterine origin. In another case each index finger had but one basal phalanx, and the third and fourth fingers on both sides were partly grown together.

CHAP. II.—*Odontology*. This has reference chiefly to the theory of a double incisor bone on each side, so fully worked out of late by Albrecht (v. ANNALS, for June, 1885, p. 578), and corroborated by Turner. G. finds that his cases harmonize better with this theory than with any other.

CHAP. III.—*Mortality Statistics of Hare Lips*. Of the forty operated cases from which some report was obtained up to February, 1884, twenty had died, though all had been dismissed cured.¹ On comparing with the death rates in Baden and Prussia these (all legitimate) show a death rate about 20% higher than the average of like situated legitimate children, and about 10% higher than the illegitimate. Of course his cases are too few for definite conclusions. By adding his cases to Fritsche's—a total of ninety-six, though not all operated—he finds that the mortality increases with the severer forms; those involving the palate and bilateral show a mortality of 66.6% (twelve out of eighteen). The mortality in the latter case is probably in part owing to the severe operation of retracting the intermaxillary prominence.

Of G.'s cases six died in the second week, four between second week and end of third month, and ten later. Various children's diseases are given as cause.

The mortality in the first fourteen days after operating, in 337 cases which he has been able to collect from various sources, amounted to 10.6%. This, however, is too low, since their stay in a hospital averages but little over a week. In 151 cases, however, inquiry had been made concerning the two weeks, and of these eighteen, or 12% had died. Of 134 other reported cases eighteen, or 13.4%, had died from the third week to the third month, inclusive. The total mortality amongst these 134 amounted for the first three months to 23.4%. Of 121 cases operated by Billroth, Rose and Czerny 41, or 34.1%, died within a year. Of course the cause of death in these cases cannot be entirely attributed to the operation, and mortality statistics of not operated hare-lips are wanting.

The dependence of mortality on the age chosen for operating is

¹ The fact that no death followed from the operation is believed to be partly due to a rule of Czerny's, that the mother be admitted with the child to take care of it.

next considered. Of 113 under 1 year forty, or 35%, died during the year, while the average mortality for the same age in Baden and Prussia is 24%.

By comparing tables and curves he concludes that: 1. The mortality of operated hare-lips in the first year of life is in general less dependent on the injurious effects of the malformation itself than on the operation. 2. The injurious effect of the operation is most evidently and immediately noticeable in the first three months of life. 3. The after effect of the operation is less noticeable after the third month—in fact is slight, unless, possibly, after the ninth month (dentition). However, those operated in the first three months do not show a higher mortality in the first two weeks post operat., but rather a permanent weakening, which eventually leads to the less favorable result.

After citing various authorities he concludes that weakly and sickly children ought not to be operated the first year, but that the fourth, fifth and sixth months—just before dentition—are the most favorable. That, however, better chances *quoad vitam* are secured by an operation the first year, he does not find to be the fact; it is necessary to individualize. For complicated double cleft it is advisable to wait until after the first or second year.

Next comes the mortality from the various operative procedures. Operative retraction of the prominent intermaxilla is frequently attended with considerable hæmorrhage and has a high mortality if done the first year.

The eight cases operated by Czerny (in the first six months) with negative results, all died within eight months. G. thinks that both imperfect wound union and death result from a common cause—a weak infantile organism. It is not so much the anatomical conditions as the weakness and tender age of the patients that affect the result unfavorably.

CHAP. IV.—*Methods of Operating and After-treatment.* Chloroform was only used once. The methods employed are described and in part illustrated.

CHAP. V.—*Results.* Primary union followed in about half of Czerny's cases of hare-lip.

In an added note G. refers to Herrmann's similar statistics (*Disser-*

tation. Breslau. 1884) of 135 cases. In the *Centbl. f. Chirg.*, 1885. No. 42, p. 727, a brief 'crib' of Abel's statistics (*Dissert.* Göttingen. 1885) is given, covering later reports from 90 out of a total of 116 operated cases. These various collections agree very well, and hence we do not need to again go over the figures.

G.'s articles include various tables and close with a tabular review of his own cases.—*Arch. f. klin. Chirg.* 1885. Bd. 32, Hft. II and III.

CHEST AND ABDOMEN.

I. Case of Right-Sided Chylothorax from Rupture of the Thoracic Duct. By Dr. KRABBEL (Witten.). K. adds another case to those collected by Kirchner (v. ANNALS, September, 1885, p. 263). A miner, æt. 16 years, was run over in the pit by an empty coal car of 300 kg. weight. When seen next morning he did not appear to be severely injured. No trouble in breathing; only complained of pain in sternum and to sides of chest. Spine somewhat sensitive to pressure over last dorsal vertebra, yet not more so than on sides of body. He could sit up alone. No paralysis, cough nor expectoration of blood. Below right scapula a dulness reaching up two finger breadths. He was comfortable at this time. Next day some increase in dulness. The third day he was worse. Breathing more rapid, no fever. Preference for lying on right side. He got up against orders and walked across room. In night from 4th to 5th he became suddenly worse, dyspnœa; restlessness, thirst without fever. Morning of 5th, dulness over whole right side of chest, except tympanic at apex front and back. P. 110. He was not punctured since a right hæmo-pneumothorax from vascular injury was assumed. Death same afternoon from suffocation. Right pleural cavity filled by about 6 l. of a milky, odorless fluid. Lung collapsed and uninjured. Transverse fracture of ninth vertebra, and opposite this a transverse rupture of thoracic duct. The chyle is believed to have developed a gas, as in a very similar case of Quincke's. Aspiration he thinks would have been futile.—*Centbl. f. Chirg.* 1885. No. 42. P. 736.

W. BROWNING (Brooklyn).

II. On Thoraco-centesis for Empyema. By Dr. PAUL BLUMBERG (Baku). At present thoracocentesis is used only for the re-

lief of serous pleuritic effusions, to prevent access of air; and free incision, permitting air to enter, is in use for empyema. The author calls attention to the disadvantages of the latter operation: (1.) The patient is subjected to offensive wettings with pus and blood, and therefore exposed to colds and skin-eruptions; (2) The possibility of occasioning hæmorrhage by wounding the intercostal artery is a source of anxiety to the surgeon; (3) The operation is of longer duration and of greater painfulness than is necessary.

On the other hand, however, paracentesis without admitting the air is not advisable (1) because it would have to be daily repeated, (2) because all the pus could not be completely evacuated and (3) because the pus must have continual escape to avoid putrefactive stagnation. The author therefore recommends the use of a silver canula $1\frac{1}{8}$ inch in length and of $\frac{1}{16}$ inch calibre, large enough to admit a double current catheter, and furnished with a plate resembling a tracheotomy canula; this is to be introduced with the help of a suitable stylet into the sixth intercostal space and left to remain for three weeks. the cavity being washed out daily with a 2 per cent carbolic solution. A rubber tube is attached leading to a basin beside the bed, to carry off the discharge. In fact the author recommends the use of his canula in all cases of effusion; and if they prove serous in character; it may be again extracted. He gives two cases.—*Deutsch. Zeitschr. f. Chirurg.* Bd. 12. Hft. 5 and 6. October 6, 1885.

W. W. VAN ARSDALE (New York).

III. Laparotomy for Acute Intestinal Obstruction: Failure to Discover Cause of Obstruction; Post-mortem Reveals Hernia of Colon through Diaphragm. Reported by Dr. GIUSEPPE GLASSI (Florence). A married woman, aet. 28, mother of two children. First labor had been very difficult. Present condition robust. Was admitted into St. John's Hospital, Florence, on the third day after having been seized with persistent nausea and severe abdominal pain. Patient was apathetic, with good pulse and natural respiratory organs? (Ed.). No tenderness of the bowels on palpation; great complaint of nausea, with seizures at short intervals of acute colicky pains, with severe tenesmus. Treatment by opiates, with the addition of hot

baths later, was persisted in for three days with no relief. On the fourth day after admission to hospital most serious symptoms of obstruction had developed, including stercoraceous vomiting, suppression of urine, and great restlessness. Copious enemata of olive oil and linseed infusion were given through the day and the succeeding forenoon without effecting any beneficial result. Collapse being imminent, stimulants were given and laparotomy done, the operation being performed by Dr. Ferrari. The small intestines having been turned out from the abdominal cavity, a careful examination of their whole length and of the cæcum, sigmoid flexure and rectum was made without the discovery of any obstruction. Further search was not deemed advisable, and the conclusion that a mistake in diagnosis had been made was adopted.

The abdominal wound was closed; the woman rallied well, and during the night had no return of vomiting, and had three evacuations. At dawn a sudden collapse manifested itself, with speedy death. The *post-mortem* examination revealed no obstruction in the portions of intestine that had been examined, but the splenic angle of the colon was found to be engaged in a hole in the diaphragm. On opening the chest, so as to avoid any injury to the diaphragm, it was found that a coil of the intestine filled up, in a great measure, the right cavity of the pleura. The heart was displaced to the right in such a manner that its apex was resting behind the lower border of the sternum. The displacement of its base, on the other hand, was slight, the heart presenting a much less oblique appearance than in its normal condition. The left lung was pressed upwards into the cavity of the pleura and close against the spinal column. The lower lobe was in a complete state of collapse, while the upper part contained air, and was slightly oedematous. Passing to the examination of the diaphragm, it was observed that the rupture was of an oval form and surrounded by a fibrous ring. Its position was in the anterior half of the left of the muscle corresponding with the normal seat of the cardiac point. The hernia was placed in such a manner that the part of the transverse colon that had passed into the thorax was situated in front of the descending colon, and this latter was pressed hard against the posterior part of the ring. In the pleural cavity the gut was much distended with gas and the apex of the hernia touched the region under the clavicle.

There was no sac of any kind, so that the intestine was in direct contact with the pericardium and the lungs. In the space near the diaphragmatic ring it was noticed that the constriction of the bowels was such as to hardly admit the tip of the index finger. The walls were somewhat tapered off, and the mucous surface appeared to be superficially ulcerated. The stomach was empty and contracted, and was slightly pushed out of its position toward the right side. The spleen also was pressed to the right side. Upon trying to reduce the hernia the ascending gut slipped back into the abdominal cavity without offering any resistance, while the posterior descending colon could also be reduced, but with some difficulty in consequence of its adhesion to the rim of the ring. Upon reducing the hernia it was distinctly seen that the intestine was abnormally prolonged. This fact, together with the condition of the ring, showed the hernia to have been of long standing.—*Lo Sperimentale*, 1885, March.

PIETRO MICHELLI (London).

H. P. DUNN (London).

IV. A Successful Case of Cholecystotomy, with Critical Remarks. By A. C. BERNAYS, M.D., (St. Louis, Mo.). A woman, æt. 46, suffered greatly from colic and presented a tumor in the right hypochondriac region which had been observed to be continuously enlarging for the previous two months. The diagnosis being uncertain, an exploratory laparotomy was made in the linea alba, exposing a greatly enlarged gall bladder, which was drawn out of the wound and emptied of about a pint of perfectly clear mucus, with a slight greenish deposit in the last ounce or two only. The cystic duct was found to be plugged by a large gall stone, which was removed together with about twenty others found in the sac. The gall bladder was then closed, the edges of the incision being first drawn together by seven sutures of fine, iron-dyed silk, cut close to the knot; the peritoneal walls on either side of the incision were then drawn and sutured after the manner of Lembert, the viscus cleansed and returned to the abdominal cavity. All operative procedures having been performed after the gall bladder had been drawn out of the abdominal cavity, the "toilet" was deemed unnecessary. No antiseptics were

used, but scrupulous cleanliness maintained throughout. Aside from the vomiting of a very large quantity of bile during the evening and night after the operation, recovery was uninterrupted, and the patient left her bed on the twenty-first day. As a result of his studies in connection with this case, the author concludes that:

1. The causes which indicate operative interference with the system of gall vessels are: *a*, jaundice, *b*, paroxysmal pain or a tumor in the right hypochondriac region; *c*, suppuration; *d*, peritonitis; these conditions are to be either severally or singly recognizable, the presumable origin being biliary calculi; *e*, malignant disease.

2. Explorative laparotomy must be preferred to acupuncture or aspiration as a diagnostic measure.

3. The incision in the linea alba is preferable when there is much doubt regarding the seat of obstruction, because the large ducts can be reached much better from this incision than from the incision parallel to the free border of the ribs.

4. The escape of bile through an abdominal fistula is not injurious to the process of normal digestion. The bile is an excretion, and probably of no more use in the intestinal canal than the urine in the bladder.

5. Jaundice, when caused by an obstruction of the common duct, is no contraindication to natural cholecystotomy. We may often save life by its early performance.

6. Cholecystotomy, natural and ideal, and cholecystectomy are the three operations at our service; cholecystenterostomy may be useful, but it has not yet earned a place among approved surgical procedures.

7. "Ideal" cholecystotomy, performed by the author, is indicated when the bladder is normal in structure and when the gall-ducts have been cleared of obstructing calculi.

8. Natural cholecystotomy with the formation of an abdominal fistula, is indicated when the bladder is ulcerated or suppurating, or when there are permanent obstructions beyond reach at the time of operation.

9. Cholecystectomy should be limited to cases of otherwise incurable or malignant disease of the gall-bladder.—*St. Louis Weekly Med. Review.* 1885. Oct. 14.

V. Case of Cholecystotomy. By W. W. KEEN, M.D., (Philadelphia). Man, æt. 45, subject to colic, with a tumor in the right hypochondriac region from which an aspirator drew bile, and a probe passed through the needle at the same time was thought to have detected a gall-stone. The abdomen having been washed with carbolized water, an incision three inches long was made parallel with the rib, over the tumor, which was found to be an enlarged left lobe of the liver. The gall-bladder was found to be displaced, the duodenum being mistaken for it and opened, then closed with silk sutures; it was finally found, much shrunk and closely contracted about two large gall stones, far posterior to its proper site. The calculi were removed, the gall-bladder sutured with carbolized silk Lembert's sutures, the abdominal cavity washed with carbolized water, closed with wire sutures and the wound dressed with mercuric bichloride gauze. The patient died fifteen hours later from shock and a small amount of after-hæmorrhage, presumably from vessels injured in lifting the mass in which the gall stones were situated.—*Phila. Med. Times.* 1885. Nov. 14.

VI. Cases of Abdominal Injury. By J. A. STUCKY, M.D., (Lexington, Ky.). **CASE 1.** Man, æt. 33, received dirk wound extending from the anterior superior spinous process of the ilium to just over the symphysis pubis, through which six or seven feet of small intestine protruded and lay on a sawdust covered floor. The intestines were carefully washed with a carbolized solution and three wounds were discovered from which fæcal matter was escaping, and sutured with catgut. The abdominal cavity was also washed with a carbolized solution and, the gaseous distension of the bowels rendering their return into the abdominal cavity impossible, the gas was made to escape through a number of minute punctures made with the point of a scalpel. The wound was closed with uninterrupted silk suture and adhesive straps. The antiseptic dressings applied consisted of cloths wet with Listerine and applied every four hours. Recovery was uninterrupted and complete in four weeks, leaving a small ventral hernia.

CASE 2. Man, æt. 28, had the coupling link of a freight car, $5\frac{1}{2}$ inches wide and 18 inches long, forced completely through his abdomen to the left of the median line, just below the last rib. The end

of the link being rounded, none of the viscera were injured. The wound was washed with carbolized water and the edges brought together by deep silk sutures reinforced with adhesive plaster strips. Circumscribed peritonitis, sloughing of the wounds and free suppuration complicated the recovery, but the patient was able to sit up in bed on the eighteenth day and return to his work after three months cured, but with a large ventral hernia kept in place by a pad and bandage.—*N. Y. Med. Record.* 1885. Nov. 21.

VII. Intestinal Obstruction: Acute Peritonitis: Ovariectomy: Laparotomy with Recovery. By J. W. LILLY, M.D., (Pomeroy, O.). A woman, æt. 34, had presented the symptoms of intestinal obstruction for five days, and laparotomy was decided upon as a last resort, the patient being already in a state of collapse. The abdomen being washed with a carbolized solution, the abdomen was opened in the middle line; the peritoneum was found to be subject to general inflammation, and an ovarian tumor between six and seven inches in diameter, was discovered, bound down by firm adhesions, one of the bands of adhesion being the cause of the obstruction. The attachments were torn loose, the tumor removed, the toilet of the abdomen performed, the external opening closed and an antiseptic dressing applied. The patient's recovery was complete in spite of an intercurrent attack of capillary bronchitis.—*N. Y. Med. Record.* 1885. Nov. 14.

VIII. Case of Laparotomy for Gunshot Wound of the Small Intestine and Mesentery. By D. A. V. PARK, M.D., (Chicago, Ill.). The patient, a slight boy æt. 16 years, had suffered a pistol-shot wound twenty-two hours previously and in the mean time had been under unfavorable surroundings. The incision was made four inches long, two inches to the left and parallel with the linea alba, directly over the wound; on incising the peritoneum, a large quantity of blood and clots was found obscuring two intestinal wounds; one where the peritoneal and muscular coats only were carried away, and the other opening directly into the intestinal cavity, cutting off a small mesenteric artery, which was tied and the intestinal wounds closed with interrupted sutures. The toilet of the abdominal cavity was performed with care and the external wound closed. From this time the patient sank

steadily and died seventeen hours later. Autopsy revealed commencing peritonitis and repair. The author expresses a belief that had the surgical interference occurred within a short time after the accident recovery would have ensued.—*Med. Jour. and Examiner*. 1885. Nov.

GENITO-URINARY.

I. Gangrene of the Scrotum Following Excision of Inguinal Glands. By W. B. PLATT, F.R.C.S. (Baltimore). A report of three cases of removal of inguinal glands, followed by gangrene of a portion of the scrotum, which the author considers to be a consequence of the operations. In seeking for the immediate cause he repudiates phlegmonous erysipelas, direct extension of septic infection or inflammation and obstruction of the circulation, and, reasoning by exclusion and analogy to similar conditions produced in other parts of the body, he concludes that it is an acute reflex trophic lesion due to irritation of the branches of the ilioinguinal nerve and reflected to the terminal filaments in the scrotal tissues.—*Med. News*, 1885. Nov. 14.

II. Calculous Disorders and Lithotomy in South China. By F. CARROW, M.D., (Wilmington, Del.). Attributes the prevalence of calculous disease in South China to the alkaline water acting as a disturber of digestion and producing an excess of lithic or uric acid. Poor food and malarial climate are also factors in producing the same result. Out of 138 operations, under poor hygienic surroundings, there were but eight deaths, attributable to the fact that the Oriental tolerates surgical operations better than the Anglo-Saxon. His method of operating is to make a small incision through into the bladder, and then, passing a finger into the cavity along director, to dilate the opening with the finger, believing that better union is obtained in this way than by making an incision of sufficient size for the passage of the stone at once.—*Med. News*. 1885. Nov. 7.

J. E. PILCHER (U. S. Army).

III. Supra-pubic Cystotomy. By F. SWINFORD EDWARDS, F.R.C.S., (London). A patient, æt. 68, was admitted into St. Peter's

Hospital, with chronic cystitis, due to enlarged prostate. He was unable to pass any water without the aid of a catheter. Although the bladder was washed out daily, the call to micturate became more frequent, and instrumentation of the urethra was often attended with much pain and difficulty. As the patient was daily getting weaker, the author asks what means were open to him for the relief of symptoms and for the prolongation of life. 1. Retention of a catheter. This had been tried in vain. 2. Supra-pubic puncture was inadmissible, as the bladder was contracted and did not allow of distension. 3. Perinæal cystotomy did not seem expedient, looking to the worn-out condition of the patient and to the probability of nephritis co-existing. 4. External urethrotomy would not have been of much avail, as the obstruction to micturition would still have prevented the escape of urine. 5. Puncture through the prostate, as advocated by Harrison in cases of enlarged prostate and distended bladder, was out of the question, as the bladder, in this case, was contracted. 6. Supra-pubic cystotomy was now the only course left open.

This was accordingly done, the bladder wall being incised close behind the pubes on the point of a silver catheter. Immediate relief to symptoms followed the operation, and the patient has since continued to wear an India-rubber tube in the hypogastrium, through which he daily washes out the bladder. Two years after the operation the patient was still wearing the tube.—*Med. Times.* 1885. May 30.

IV. The Treatment of Urethral Stricture. By F. SWINFORD EDWARDS, F.R.C.S. For purposes of treatment the author divides strictures into two great classes. 1. Strictures of the meatus and penile urethra. 2. Strictures of the fixed or bulbo-membranous urethra.

For the first variety dilating urethrotomy by means of Otis' instrument is recommended, and for the second, where treatment by bougie is not effectual, internal urethrotomy, by means of Tevan's modification of Maissonneuve's urethrotome. Mr. Edwards has operated with this instrument in thirty cases, with invariable success. In 142 cases of internal urethrotomy, involving the deep urethra, during the last three years at St. Peter's Hospital, for stone there were three deaths only.

One was due to shock, another to hæmorrhage, and the third to suppression of urine in a case complicated with suppurative nephritis.

Rules are laid down for the treatment of urethral fever and urinary suppression.—*Lancet*. 1885. Feb. 21.

V. Supra-pubic Lithotomy. BY M. TERRILLON (Paris). A stone having been crushed in the vesical bas-fond, the rest of the bladder was explored, with the effect of discovering a hard body situated in the upper part of the organ. An incision was therefore made into the bladder above the pubes and five calculi were found embedded in a sacculæ. These were removed and the patient rapidly convalesced.—*Le Progrès Médical*. 1885. June 20.

VI. Latent Vesical Calculus. BY E. HARRY FENWICK, F.R.C.S., (London). Stone in the bladder may give rise to no symptoms, owing to (1) anæsthesia of the vesical mucous membrane. See a case in Deschamp's *Traité de la Taille*, vol. 1, p. 166; or (2) mechanical causes preventing the stone from falling into the neck of the bladder. These mechanical conditions are of three kinds: 1. Adherence of calculus to bladder wall. 2. Sacculætion of bladder. 3. Pouching of the bas-fond of the bladder. Attention was drawn particularly to the last cause, which was usually attributed to an enlarged prostate, but which is really produced by stricture of the urethra. It consists of an hypertrophy of the muscles of the ureters, known as the muscles of Ellis, which cross the base of the the trigone from ureter to ureter. This ridge, behind which the bladder is pouched, may prevent a stone falling into the neck of the bladder just as may an enlarged third prostatic lobe.—*Brit. Med. Jour.* 1885. May 23.

VII. Saccular Dilatation of the Urethra. BY LAWSON TAIT, F.R.C.S., (Birmingham). Four cases of this occurring in the female are recorded from the author's own practice. The symptoms in all cases were similar, the patients being constantly troubled with an escape of fetid ammoniacal urine, causing irritation and discomfort. The escape did not occur during micturition, i. e., the urine passed voluntarily and was usually perfectly clear and sweet, but either with the least strain of micturition or pressure, or on a sud-

den change of position, and at other times inexplicably, this foetid urine escaped without the cognizance of the patient until she found herself wet and uncomfortable.

On examination a tumor apparently continuous with the neck of the bladder, presented itself between the nymphæ, resembling an ordinary cystic vaginocoele, save that it was tender on pressure. On pressing it the characteristic foetid and purulent urine escaped by the meatus.

When a catheter was passed into the bladder with the point well directed to the urethral roof, it passed easily and healthy urine was drawn off. When, on the contrary, the point of the instrument was passed with slight pressure along the floor, it entered the cavity of the tumor and putrid urine escaped.

Treatment—A catheter being in the urethra an elliptical piece of the tumor was excised, laying open the cavity. The thick mucous lining dissected off as far as aperture leading into urethra and finally the vaginal mucous membrane closed over the cavity by deep silver sutures. Catheter retained for five or six days. Stitches removed on the eighth or ninth. All the cases did well.

M. Gillette of Paris records a similar case, though whether it was exactly like Mr. Lawson Tait's does not appear quite certain.

The author attributes this condition to an error in development by which a small offshoot of the urethra like a diverticulum of intestine is the result of faulty union of the primal folds and that this becomes of pathological importance owing to errors of urination to which the sex is more or less addicted.—*Brit. Med. Journ.* May 16.

F. SWINFORD EDWARDS (London).

WOUNDS, INJURIES, ACCIDENTS.

I. The Results of Dressing Wounds with Sugar and the Methods of Wound-Treatment as Used at the Surgical Clinic at Strassburg. By Dr. F. FISCHER (Strassburg). Sugar was introduced as a surgical dressing in the Strassburg surgical clinic by Prof. Lücke in May, 1883. One year and a half having elapsed since that time the author believes a sufficient test to have been exercised upon the method, and publishes the results, giving thirty-one pages of condensed reports of cases, including eight com-

pound fractures, thirty-five cases of amputation and twenty resections, and a number of statistical tables.

The use of sugar has the advantage of enabling the surgeon to do away with all contact of poisonous substances with the wounds; the dressings used being sufficient to prevent any infection of the wound from without and to keep it aseptic and prevent the secretions from becoming putrid, provided the wound was not infected during the operation.

Sugar itself has antiseptic properties, as was known to Galen, Scultetus, Pringle and others. The mode of applying it is as follows: Muslin rendered absorbent by boiling in alkaline solutions is laid once folded upon a table; the sugar is then poured upon it and spread out so as to form a layer one-half centimetre in thickness and extensive enough to overlap the wound to be covered at least two centimetres in each direction, and the muslin simply folded over it. These cushions suffice for wounds with slight secretion, but when copious discharge is present wood-wool is used over the sugar-bag.

The wounds themselves are first disinfected by a one in thousand sublimate solution, the use of which never caused any alarming symptoms in children, although in adults two cases of hæmorrhagic diarrhoea, several of stomatitis and one case of hæmorrhagic nephritis is reported, which led to the subsequent substitution of hypermanganate of potass for disinfecting all cavities, or when nephritic trouble was present. An action of the sublimate on the urine was, however, very frequently observed, coloring it red, with a slight fluorescent turbidity, for a period of three days in adults. Twice erysipelas attacked wounds thus disinfected. Open wounds were treated for a time with naphthaline and sugar in equal parts, but later on in preference with iodoform and sugar, one in ten. But sugar alone sprinkled on fresh open wounds was found to be an excellent dressing, and to keep the granulations in a good condition, causing rapid cicatrization. Indeed, it alone suffices to destroy the offensive odor of foul ulcers and broken-down tumors, after repeated application.

As regards the technical aspect of wound-treatment, in Strassburg carbolic acid is used for cleansing the hands, for disinfecting the sponges, for preserving the drainage tubes and the silk sutures. All

ligatures are likewise applied with carbolized silk. The instruments remain immersed in 5 per cent carbolic solution for half an hour before use. Spray is used to cleanse the room before operations and during laparotomies. The sugar-bags being laid on sutured wounds, absorbent muslin is placed over them, and subsequently rubber tissue and cotton, the whole being fixed with wet and dry bandages.

The dressings are changed on the sixth or eighth day, for the purpose of removing the drainage-tubes. But they may remain unchanged as long as two weeks, and in cases of profuse secretion it suffices to add another bag wherever the syrup appears at the edge of the dressings. As a rule, however, the sugar does not dissolve. The course of the wounds was favorable; fever, over 39° C., rarely appeared in the evening; more frequently the temperature rose over 38° C. on the second or third day. The dressings were changed whenever a temperature above 38° C. was registered in the morning.

The cases thus treated were 202 in all, five of which terminated in death, one of erysipelas, one of hæmorrhagic nephritis. Thirty-one of the thirty-five amputations healed by first intention, two died and two were complicated with septic affections. The average duration of the time of healing was twenty-two days, a shorter period than the ones published heretofore.

The author does not advocate the use of sugar-dressings for phlegmonous inflammations, empyema, or extensive suppurations, on account of the liquefaction of the sugar by the discharge, but would recommend them chiefly for sutured wounds, abrasions, and superficial lacerated contusions.—*Deutsch. Zeitschrift. f. Chirg.* Bd. 22. Hft. III. 1885. July 30.

TUMORS.

I. Contributions to the Pathology of Tumors. By Prof. F. WILLIAM ZAHN (Genoa). (Continued from Vol II, No. 10, p. 340, of this journal). 4. *A myxo-sarcoma occurring in a fœtus of six months, and originating from Bichat's boule graisseuse.*—The fœtus had a healthy mother, measured 30 cm. in length and 22.5 cm. around the head, and was highly œdematous. On the left cheek it presented a tumor 15.5 cm. in height, 12.5 cm. in breadth from the ear to the chin and of 16 cm. basal and 23.5 cm. maximal circumference.

The growth reached from the ear to the lower eyelid and to the corner of the mouth, and thence passing over the chin, to within 3 cm. of the right ear, and downwards as far as the hyoid bone. The superficies was uneven, the skin normal at the base, but necrotic on top. The tumor was very vascular. On section three zones could be discovered; the external one was narrow, brownish, necrotic; the middle one wider, reddish, translucent; the inner one white, medullary, highly vasculated.

Microscopic examination revealed the centre portion consisting of small round cells with large nuclei, the protoplasm containing fat-globules; the very numerous vessels were wide, and consisted only of an endothelial tube; no connective tissue. The middle zone showed numerous vessels, and between these a homogeneous structure, containing fewer round and some large spindle-shaped cells, with large oval nuclei and fat globules; the latter cells formed a reticulum and possessed processes which interlaced. The external layer showed very fine interwoven elastic fibrillæ and very few round cells. The tumor was confined by a membrane, and, by a process, invaded the fossa speno-palatina. It was bounded by the buccinator muscle on the inside and externally by the masseter, and closely approached the large vessels of the neck. On the lower portion the confining membrane was missing, and the tumor showed a gradual transition into the normal surrounding tissues. In the upper part several cystic cavities were found, filled with fluid, and containing giant cells (ectasied lymphducts?).

The diagnosis of myxo-sarcoma cysticum at the location of Bichat's "*boule graissusee*," or Ranke's "*sangpolster*," was made—a point where lipomata have been observed, but heretofore no malignant tumors.

5. *On cysts containing ciliated epithelia in the cavum pharyngo-nasale.*—In this cavity tumors are rare; adenoid vegetations and fibrous polypi are most frequent; next in frequency fibro-mucous polypi and papillomata are observed; and the least frequent growths are carcinomata, sarcomata, and enchondromata. No mention is made of cysts, in the text-books; but three cases have been published by Tröltzsch, Czermak and Luschka, respectively. The author publishes three new cases. The sac consisted of connective tissue con-

taining few cells, and was lined with flat, cuboid or cylindrical ciliated epithelial cells. Externally the sac was encompassed by adenoid tissue without glands, and outside of this was fibrillar connective tissue containing glands. These cysts were situated in the pharynx close to the os basilare, between the apertures of the Eustachian tubes. They are thought by Luschka to originate from Mayer's pharyngeal pouch.

6. *Four cases of branchial cyst.*—After giving a survey of the literature of the subject, the author describes four new cases. Three of the cysts occurred in the aural region, between the angle of the maxilla and the median edge of the sterno-cleido-mastoid muscle; and one in the supra-clavicular fosse at the edge of the same muscle. The latter developed rapidly, the former ones slowly. In three of the cases the operation was rendered difficult on account of the close connection with the underlying nerves and vessels. Three of the cysts were unilocular, one multilocular. Three contained atheromatous matter, only one a fluid. The sac was uneven, papillomatous on the inner surface; the lining consisted of pavement-epithelia in three, and of cylinder-celled epithelia in one of the cases. The sac consisted of fibrillar and lymphatic connective tissue. In one case large spindle- and star-shaped cells formed the external layer.

The author next compares together all the seventeen accurately described cases and deduces the following results: Branchial cysts occur more frequently in children. Eleven cases were congenital, seven occurred during puberty, three between 39 and 55 years.

Their growth is generally slow, painless. As to sex the proportions are about equal. They occur most frequently on the left side (10:3), near the ear. Fifteen cases were unilocular. The contents, with one exception, was atheromatous. The lining is always epithelial, two cases each of cylinder and ciliated epithelia are recorded.

The sac consists of fibrillar and adenoid tissue; one case of combined connective and cartilage-tissue is known. In six cases lymph-follicles were present in the adenoid tissue. The author adds several further interesting details, and traces the origin of these cysts to the persistence of the branchial or visceral clefts.—*Deutsch. Zeitsch. für Chirurg.* Bd. 22. Hft. 3 and 4. 30th July, 1885.

BONES, JOINTS, ORTHOPÆDIC.

I. Some Remarks Upon Seventeen Cases of Fracture of Spinal Vertebrae. BY E. DE REYNIER (Neuchâtel). This paper, written under the auspices of Professor Kocher, of Berne, contains detailed accounts of seventeen cases of fracture of portions of the spinal column, which came under observation during a period of nineteen years (ending 1884), in the surgical clinic of Berne. The fractures occurred in the dorsal region nine times, and four times each in the cervical and lumbar regions. Eleven of the cases died, two recovered, and four showed slight improvement. Fifteen of the patients were males, two females, all laborers. The cervical fractures all occurred between the sixth cervical and first dorsal vertebrae, and pertained to the body, the arch and the spinous process of the vertebrae; those lower down only affected the bodies of the vertebrae, and were generally situated between the tenth dorsal and second lumbar vertebrae. The spinal marrow was injured in various ways. Six of the fractures are classed as indirect, the patient falling on his head in five cases, and five as direct ones. All the cases of cervical fracture died; one of high temperature, one of coma, one of convulsions occurring after use of the catheter, and one of asphyxia. Of the nine dorsal fractures five cases died from suppuration, one recovered with urinary disorders, the rest remained in *statu eodem*. Two of the cases of lumbar fracture died from the effects of suppuration (pyæmia), one recovered. No cases died from myelitis. In all the fatal cases, in which respiration continued unembarrassed, death ensued from infection from without (cystitis, decubitus):—life is dependent upon the prevention of infection. The lower down the fracture is situated the more hope there is for the maintenance of life.

The author does not dwell upon the well-known symptoms of vertebral fractures, as kyphosis, the state of the reflexes, the action of electricity, coma, priapism, etc., but turns his attention to some special symptoms which, in his cases, did not accord with the generally accepted theories.

In cervical fractures the temperature reached 43.2° C. in one, and 41.4° in another case; in one case it sank to 33.6° C. The pulse was

quiet, regular and infrequent, contrary to Charcot's and Erb's assertion, even when the temperature was high. In the dorsal and lumbar fractures fever is, however, an exception (contra: Erb).

The vasomotor disturbance varies; the paralyzed parts are warmer than the others as long as no fever is present; when the temperature rises the paralyzed parts are at first colder than the rest, and follow them very gradually. Decubitus occurred very soon after the injury, and was dependent upon the loss of sensibility. It could be prevented by the use of water or air-cushions. The myelitis accompanying motor paralysis never ascended more than 1 or 2 centimetres. After complete motor paralysis only one case of recovery could be recorded (*vide infra*); the other cases remained unimproved. Convulsions occurred in two cases. Vomiting occurred only from the second to the fourth day after injury. Constipation was always observed, generally lasting from two to five days. Tympanites was always observed in the cases of cervical fracture. The fæces were formed in the cases of dorsal and lumbar fracture, and diarrhœa only occurred after decubitus or cystitis had set in.

The author accounts for the retention of fæces after lesions of the cervical marrow by assuming that the intestines are paralyzed; if the lesion is situated further down only the lower part of the intestine is paralyzed; and if the centres of defecation are uninjured, the passages are regular, the distension of the rectum acting as stimulus, but without being influenced by volition. Incontinence is only effected by paralysis of the sphincter muscle, in which case alvine discharge may be (but need not be) continuous. As for the urinary disorders, the quantity of urine passed in injuries of the spinal marrow is normal (contra: Erb); it is always acid at first, and only once contained sugar and once albumen. In consequence of spinal lesion retention and stagnation of the urine occurs, necessitating the use of the catheter. If the urine becomes alkaline it is either in consequence of some infection introduced by means of the catheter, or by the occurrence of hæmorrhages. The urine turns alkaline after three or ten days' use of the catheter. In four cases, however, cystitis could be avoided.

The author follows Kocher in believing that the bladder is generally occluded by automatic, elastic action. Distension causes a stimulus to

be conveyed by the bladder nerves to the spinal cord and to the volitional centres of the brain; and then the bladder is emptied. If micturition is to be prevented, the voluntary muscles of the external sphincter vesicæ are contracted. If the tract leading to the brain is destroyed voluntary micturition is rendered impossible. If the reflex centres are impaired (in fractures of the last dorsal and first lumbar vertebræ) the bladder becomes gradually distended, until the elastic tension of the internal sphincter is surmounted, when the urine leaks out drop by drop. In such cases early use of the catheter is advisable. As soon as the elasticity of the tissues becomes impaired (a consequence of cystitis) incontinence ensues.

The pressure in the bladder was also directly measured, and it was found that in cases of distended bladder about 100 cm. of urine remain in the bladder after use of the catheter. As to treatment of vertebral fractures, the author recommends the use of air-cushions as soon as disorders of sensation set in. In using the catheter, which should be preserved in carbolic solution during the day, care should be taken not to cause hæmorrhages.

Reduction of a dislocated vertebra should be attempted while the patient is suspended by his head, and a plaster-of-Paris corset should be at once adjusted and left on for two months. In one such case (fracture of the seventh dorsal vertebra) the author tested this method, and with excellent result: in one week sensation had returned, and in a month the patient was able to walk with crutches, and in two months without them.—*Deutsch. Zeitschr. f. Chirurg.* Vol. 22. Hft. 3 and 4. July 30, 1885.

W. W. VAN ARSDALE (New York).

II. Fracture of Rib Caused by Sneezing. By H. C. WYMAN, M.D. (Detroit, Mich.). Relates a case of a man æt. 72, who fractured his eighth rib during a paroxysm of sneezing. The author attributes the production of the fracture to muscular action.—*Jour. Am. Med. Assn.* 1885. Nov. 7.

III. Fracture of Sternal End of the Clavicle. By H. C. WYMAN, M.D. (Detroit, Mich.). A boy, æt. 16, fell on his head and left shoulder and fractured his clavicle at about one inch from the

sternal end. The sternal fragment had a marked tendency to be displaced upward by the sterno-cleido-mastoid muscle, the sharp points irritating and causing spasm of the platysma myoides. The displacement could not be properly reduced for this reason, and a very large amount of callus was formed, making an unsightly deformity, and interfering with the free movement of the arm. This could have been prevented by immobilizing the head or by sub-cutaneous section of the muscular fibres.—*Med. News.* 1885. Nov. 7.

IV. Treatment of Fractures of the Bones of the Leg and the Patella by Drilling and Wiring the Fragments.
By J. W. WRIGHT, M.D., and L. W. HUBBARD, M.D. (New York). Five cases are related of compound fracture of the tibia and one of both leg bones, and three cases of fracture of the patella. In the former the wounds were cleansed of all debris, all shreds of tissue were removed, the fragments drilled and wired together with silver or silver-plated copper wire, under bichloride irrigation, a drainage-tube inserted, the external wound closed with cat-gut sutures, and antiseptic dressings applied, which were removed for redressing in from eleven to twenty-one days. All the cases made an excellent recovery. In the cases of fracture of the patella, where the widely-separated fragments could not well be brought together, or where the joint was swollen and filled with clots and suppurative inflammation was feared, the joint was opened by a crucial incision, the cavity cleared out, the fragments wired together and the wound closed, all under irrigation; antiseptic dressings were then applied and the limb immobilized. Bony union seemed to be obtained in three cases. The advantages of this method are (1) the facility with which the wound may be cleansed of all matter likely to interfere with healing without suppuration; (2) the possibility of effecting immediately perfect and permanent reduction of the fragments and the avoidance of irritation by them; (3) the avoidance of disturbing the parts by frequent dressings; (4) the greater probability of speedy union where the parts are securely immobilized; and (5) the ability to save certain limbs, the seat of bad forms of compound fractures, which, under any other method of treatment, would demand amputation or greatly endanger life by prolonged suppuration and its sequelæ.—*N. Y. Med. Jour.* 1885. Oct. 31.

V. Cases of Infantile Paralysis Treated by Excising the Useless Joint and Producing Bony Ankylosis. By AP. M. VANCE, M.D. (Louisville, Ky.). Reports three cases of deformity from infantile paralysis, in which the knee-joint was excised in two cases and the ankle-joint in one, with a result of giving the patients a serviceable, though stiff, limb, in place of a useless one.—*N. Y. Med. Jour.* 1885. Nov. 7.

VI. Osteotomy for Deformity. By AP. M. VANCE, M.D. (Louisville, Ky.). Relates two cases, in one of which, as the result of old hip disease, the thigh was ankylosed at an angle of less than 90° with the pelvis. Osteotomy with the chisel was done just below the trochanter, the bone fractured and the limb straightened, healing in immovable dressings with entire relief to the deformity. The other case was a lad of 17, whose knee-joint was ankylosed at an angle of 135° with rotation of the leg and marked genu valgum. The femur was divided just above the condyles, as in the preceding case, and with a like result.—*N. Y. Med. Jour.* 1885. Nov. 7.

GYNÆCOLOGICAL.

Three Cases of Removal of the Ovaries and Fallopian Tubes. By W. W. KEEN, M.D. (Philadelphia). CASE 1. Married woman, æt. 42, exceedingly weak and anæmic, subject to profuse menorrhagia and with an interstitial uterine myoma as large as the fist. Under full Listerian precautions the abdomen was opened, each pedicle transfixed with a double carbolyzed silk ligature close to the uterus, the upper one including the Fallopian tube, the tubes and ovaries removed, the ligatures cut short, and the wound closed and dressed with carbolyzed gauze. Recovery uninterrupted, and the patient's restoration to complete health, with no uterine hæmorrhage nor myoma, and with unimpaired sexual appetite.

CASE 2. Married woman, æt. 42, subject to severe nymphomania, leading to incipient insanity, and profuse menorrhagia. As a last resort, removal of the uterine appendages was proposed and performed, as in case 1. The recovery was uninterrupted and complete relief was obtained by the operation.

CASE 3. Single woman, æt. 40, very weak and anæmic, and the sub-

ject of a uterine myoma as large as the fist, with severe and persistent hæmorrhage. The abdomen was opened in the median line and the uterine appendages removed, as in the other cases, but with some difficulty, on account of the enlarged uterus. The patient died three days later from peritonitis.—*Proc. Coll. of Physicians, Phila.* 1885.

J. E. PILCHER, (U. S. Army).

ERRATA.

In the number for December, 1885, p. 482, third line from top, read "extra-vascular pressure of 200 mm. of water" instead of 100. P. 516, sixth line from bottom read "1,000 parts of gauze in 1 part sublimate, 500 parts common salt and 100 to 200 parts glycerine."